

CLAIMS

1. An antibody having agonist activity to a receptor comprising a heterologous chain.
2. The antibody of claim 1, wherein the receptor is a cytokine receptor.
- 5 3. The antibody of claim 2, wherein the cytokine receptor is an interferon receptor.
4. The antibody of claim 3, wherein the interferon receptor is a type-I interferon receptor.
5. The antibody of claim 4, wherein the type-I interferon receptor comprises an AR1 chain and an AR2 chain.
- 10 6. The antibody of claim 1, wherein the receptor is a multimer.
7. The antibody of claim 6, wherein the multimer is a dimer.
8. The antibody of any one of claims 1 to 7, wherein the antibody is a bispecific antibody.
9. The antibody of claim 5, comprising a variable region of an anti-AR1 chain antibody and a variable region of an anti-AR2 chain antibody.
- 15 10. The antibody of claim 9, comprising a variable region of an anti-AR1 chain antibody that comprises the amino acid sequences of (a), and a variable region of an anti-AR2 chain antibody that comprises the amino acid sequences of any one of (b1) to (b10):
 - (a) the amino acid sequence of SEQ ID NO: 1 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 2 as the L chain variable region;
 - (b1) the amino acid sequence of SEQ ID NO: 7 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 8 as the L chain variable region;
 - (b2) the amino acid sequence of SEQ ID NO: 9 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 10 as the L chain variable region;
 - 25 (b3) the amino acid sequence of SEQ ID NO: 19 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 20 as the L chain variable region;
 - (b4) the amino acid sequence of SEQ ID NO: 13 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 14 as the L chain variable region;
 - (b5) the amino acid sequence of SEQ ID NO: 23 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 24 as the L chain variable region;
 - 30 (b6) the amino acid sequence of SEQ ID NO: 5 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 6 as the L chain variable region;
 - (b7) the amino acid sequence of SEQ ID NO: 17 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 18 as the L chain variable region;
 - 35 (b8) the amino acid sequence of SEQ ID NO: 15 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 16 as the L chain variable region;

(b9) the amino acid sequence of SEQ ID NO: 21 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 22 as the L chain variable region;

(b10) the amino acid sequence of SEQ ID NO: 11 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 12 as the L chain variable region.

5 11. The antibody of claim 9, comprising the variable region of an anti-AR1 chain antibody that comprises the amino acid sequences of (a), and the variable region of an anti-AR2 chain antibody that comprises the amino acid sequences of any one of (b1) to (b3):

(a) the amino acid sequence of SEQ ID NO: 3 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 4 as the L chain variable region;

10 (b1) the amino acid sequence of SEQ ID NO: 9 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 10 as the L chain variable region;

(b2) the amino acid sequence of SEQ ID NO: 25 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 26 as the L chain variable region;

15 (b3) the amino acid sequence of SEQ ID NO: 21 as the H chain variable region, and the amino acid sequence of SEQ ID NO: 22 as the L chain variable region.

12. A pharmaceutical composition comprising the antibody of any one of claims 1 to 11 as an active ingredient.